

What is claimed is

1. A capacitance type humidity sensor comprising:
a substrate;

first and second electrodes arranged so as to be spaced from each other at a predetermined interval on the same plane of the substrate;

humidity sensing film formed on the substrate in conformity with at least the area between the first and second electrodes and having a dielectric constant varying in accordance with humidity; and

moisture-permeable film formed on the humidity sensing film in conformity with at least a part of the area between the first and second electrodes, having a dielectric constant higher than the humidity sensing film and transmitting water therethrough.

2. The capacitance type humidity sensor according to claim 1, wherein the moisture-permeable film is formed of silicon gel.

3. The capacitance type humidity sensor according to claim 1, wherein a protection film is formed to cover the first and second electrodes and the gap between the first and second electrodes, and the humidity sensing film is formed on the protection film.

4. The capacitance type humidity sensor according to claim 2, wherein a protection film is formed to cover the first and second electrodes and the gap between the first and second electrodes, and the humidity sensing film is formed on the protection film.

5. The capacitance type humidity sensor according to claim 4, wherein the protection film is comprised of silicon nitride film or silicon oxide film.

6. The capacitance type humidity sensor according to claim 4, wherein a semiconductor substrate is used as the substrate, and the first and second electrodes are formed on insulating film formed on a principal surface of the semiconductor substrate.

7. The capacitance type humidity sensor according to claim 1, wherein each of the first and second electrodes comprises a common electrode portion and plural comb-tooth-shaped electrode portions extending from the common electrode portion in one direction, and the first and second electrodes are arranged so that the comb-tooth-shaped electrode portions of the first electrode and the comb-tooth-shaped electrode portions of the second electrode are alternately arranged.

8. The capacitance type humidity sensor according to claim 7, wherein a semiconductor substrate is used as the substrate, and the first and second electrodes are formed on insulating film formed on a principal surface of the semiconductor substrate.

9. A capacitance type humidity sensor comprising:

first and second electrodes disposed in alternating arrangement on a same plane of an insulating film of a semiconductor substrate;

a humidity sensing film disposed above the first and second electrodes, wherein a dielectric constant of the humidity sensing film varies in accordance with a moisture content, wherein humidity is detected on the basis of an electrostatic capacitance variation between the first and second electrodes in accordance with the moisture content; and

a moisture-permeable film disposed above the humidity sensing film, wherein the moisture-permeable film has a dielectric constant that is higher than the dielectric constant of the humidity sensing film to thereby increase the electrostatic capacitance between the first and second electrodes.